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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,263	02/24/2004	Kosuke Yamaguchi	09812.0410	8885

22852 7590 09/15/2006

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2628	

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/785,263	Applicant(s) YAMAGUCHI ET AL.	
	Examiner Michelle K. Lay	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,6,8,9,12,14 and 16-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,6,8,9,12,14 and 16-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/06/2006 has been entered.

Response to Amendment

The amendment filed 07/06/2006 has been entered and made of record. Claims 1, 4, 6, 8, 9, 12, 14, and 16-19, are pending.

Response to Arguments

Applicant's arguments filed 07/06/2006 and 06/05/2006 have been fully considered but they are not persuasive.

In regards to claims 8, 16 and 19, Applicant argues Chen et al. (5,588,098) fails to teach *detecting a coordinate defined on the display*. Examiner respectfully disagrees. As claims 8, 16 and 19 recite, the coordinate is defined via the user's touch. Therefore, the system/method of Chen uses the input controller (15) (mouse, 2-D trackball, joystick, stylus, touch screen, touch tablet, etc.) for the manipulations of the images on the screen [Fig. 1; col. 4, lines 30-40]. Additionally, the mouse (or input device) controls

the position of a mouse pointer (e.g., a reference indicator such as a cursor) that is displayed. Thus, the two-dimensional movement of the mouse on the surface translates into a corresponding two-dimensional movement of the mouse pointer on the video display [col. 4, lines 53-61]. Furthermore, it is implicit that the input controller (15) in conjunction with the CPU/memory unit (11) provides a coordinate detection means, in order for the two-dimensional movement of the mouse to translate onto into a corresponding two-dimensional movement of the mouse pointer on the video display, otherwise the system/method of Chen would not be able to identify to the location of the input device.

Additionally, Applicant argues that Chen fails to teach a determination means for *determining whether the three-dimensional object is to be scaled up or down ... on the basis of the coordinate detected.* Examiner respectfully disagrees. Chen teaches placing the cursor within a scaling active zone (i.e. location of cursor, coordinate), as shown in Fig. 11, which in turn indicates to the system of Chen, to enlarge (i.e. *scale up*). Furthermore, claims 8, 16, and 19 contain the limitation of *determining whether the three-dimensional object is to be scaled up or down*, which Chen determines via the location of the cursor within the scaling active zone.

In regards to claims 1, 4, 6, 9, 12, 14, 17, and 18, Applicant argues Ono et al. (5,588,097) fails to teach or suggest *determine[ing] speed ... on the basis of a distance between a coordinate ... and a central coordinate.* Examiner respectfully disagrees. As stated in the office action and mentioned in Applicant's remarks, Applicant defines the angle of rotation as the speed of rotation [refer to [0091]]. It is well known in basic

trigonometry, that in order to constitute an angle, three points are needed, even if two of the points are along the same axis. Therefore, depending on the user's choice, P2 and P3 can be set to the same axis (therefore, being one point, e.g. coordinate) so that the graphic object rotates around the axis of rotation at a constant speed of rotation [col. 3, lines 45-65; col. 5, lines 30-47].

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim **8**, **16**, **19** are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (5,588,098).

The invention of Chen discloses a manipulation of a computer displayed object representing in three-dimensional form.

In regards to claim **8**, Chen teaches ***a three-dimensional object manipulating apparatus, comprising:***

- ***a display means for displaying a three-dimensional object on the screen of a display unit;***

  [Fig. 1 (19)]

- ***a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;***

  [Fig. 1 (15)]

- ***a determination means for determining whether the three-dimensional object is to be scaled up or down in predetermined cycle on the basis of the coordinate detected by the coordinate detecting means; and***

  [Fig. 11, enlarging arrow indicating that dimensions are to be affected in the case of a scaling active zone; col. 6, lines 30-39; col. 7, lines 7-21].

- ***an object scale-up/-down means for scaling up or down the three-dimensional object on the basis of the result of determination supplied from the determination means.***

  [Fig. 8, col. 17, line 31 – col. 18, line 26]

In regards to claim **16**, claim 16 recites similar limitations as claim 8 and thus, is rejected with the same basis and rationale as claim 8.

In regards to claim **19**, claim 19 recites similar limitations as claim 8 and thus, is rejected with the same basis and rationale as claim 8. Furthermore, Chen teaches a computer system (10) as shown in Fig. 1. The system includes a CPU/memory unit (11) that comprises a microprocessor, related logic circuitry, and memory circuits. A keyboard (13) provides inputs to the CPU/memory unit (11), as well as the 2-D input controller (15). Disk drives (17) are used for mass storage of programs and data. Display output is provided by a video display (19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **1**, **4**, **6**, **9**, **12**, **14**, **17**, and **18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. (5,588,097).

Ono teaches the limitations of claims **1**, **4**, **6**, **9**, **12**, **14**, **17**, and **18** with the exception of disclosing determining rotation speed. However, Ono teaches rotating an image with three degrees of freedom by pen manipulation.

In regards to claim **1**, Ono teaches ***a three-dimensional object manipulating apparatus, comprising:***

- ***a display means for displaying a three-dimensional object on the screen of a display unit***;

  [Fig. 1 (6, 9); col. 2, line 33 – col. 3, line 27]

- ***a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;***

  [Fig. 1 (5, 6, 7); positional information indicated by user via a pen (7) on a display screen (6) of the tablet (5), is input to the image generating section (2); col. 2, line 33 – col. 3, lines 27; col. 3, lines 45-64].

- ***a determination means for determining an axis and direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means*; and**

  [Fig. 1b (18); axial rotation angle calculation circuit (18) performs calculations to determine the three degrees of freedom to be used for controlling the posture of object in three-dimensional space; col. 3, lines 1-5].

- ***an object rotating means for rotating the three-dimensional object on the basis of the result of determination supplied from the determination means;***

  [Fig. 1 (3); col. 2, line 33 – col. 3, line 27].

- ***wherein the determination means determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen; and***

  The data is inputted by the user for the rotational operation via input device shown in Fig. 1 (5, 6, 7). As shown in Figs 4a-4d, the polar coordinates are specified by moving a point P (***coordinate detected by the coordinate detecting means***) on the spherical surface (22) from P0 to P1 to rotate the object (21). The rotation about an axis is defined by the center O (***central coordinate***) of spherical surface (22) and the point P0 or P1 [col. 3, lines 45-65].

As shown in Fig. 4c, a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47].

Ono implicitly teaches ***wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed.***

The user defines an axis of rotation as well as an angle of rotation. Applicant defines the angle of rotation as the speed of rotation [refer to [0091]]. As shown in Fig. 4c of Ono et al., a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. Therefore, from the definition within the disclosure of the current application, Ono teaches the speed of rotation.

In regards to claim **4**, Ono et al. teaches ***a three-dimensional object manipulating apparatus, comprising:***

- ***a display means for displaying a three-dimensional object on the screen of a display unit*;**

  [Fig. 1 (6, 9); col. 2, line 33 – col. 3, line 27]

- ***a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;***

  [Fig. 1 (5, 6, 7); positional information indicated by user via a pen (7) on a display screen (6) of the tablet (5), is input to the image generating section (2); col. 2, line 33 – col. 3, lines 27; col. 3, lines 45-64].

- ***a determination means for determining an axis and direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means*; and**

  [Fig. 1b (18); axial rotation angle calculation circuit (18) performs calculations to determine the three degrees of freedom to be used for controlling the posture of object in three-dimensional space; col. 3, lines 1-5].

- ***an object rotating means for rotating the three-dimensional object on the basis of the result of determination supplied from the determination means;***

  [Fig. 1 (3); col. 2, line 33 – col. 3, line 27].

- ***wherein the determination means determines an axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and the three-dimensional object on the display screen; and***

The data is inputted by the user for the rotational operation via input device shown in Fig. 1 (5, 6, 7). As shown in Figs 4a-4d, the polar coordinates are specified by moving a point P (***coordinate detected by the coordinate detecting means***) on the spherical surface (22) from P0 to P1 to rotate the object (21). The rotation about an axis is defined by the center O of spherical surface (22) and the point P0 or P1 [col. 3, lines 45-65].

As shown in Fig. 4c, a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. Since points P0 and P1 can be specified by the simple operation of freely moving the pen (7) on the surface (22), the user can rotate the object (21) to an arbitrary orientation as desired [col. 5, lines 19-20]. Thus, the user can select coordinates in reference to the three-dimensional object.

Ono implicitly teaches ***wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed.***

The user defines an axis of rotation as well as an angle of rotation. Applicant defines the angle of rotation as the speed of rotation [refer to [0091]]. As shown

in Fig. 4c of Ono et al., a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. Therefore, from the definition within the disclosure of the current application, Ono teaches the speed of rotation.

In regards to claim **6**, Ono et al teaches ***a three-dimensional object manipulating apparatus, comprising:***

- ***a display means for displaying a three-dimensional object on the screen of a display unit;***

  [Fig. 1 (6, 9); col. 2, line 33 – col. 3, line 27]

- ***a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;***

  [Fig. 1 (5, 6, 7); positional information indicated by user via a pen (7) on a display screen (6) of the tablet (5), is input to the image generating section (2); col. 2, line 33 – col. 3, lines 27; col. 3, lines 45-64].

- ***a determination means for determining a moving direction for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means and barycentric coordinate of the three-dimensional object on the display screen; and***

[Fig. 1b (18); axial rotation angle calculation circuit (18) performs calculations to determine the three degrees of freedom to be used for controlling the posture of object in three-dimensional space; col. 3, lines 1-5]

The data is inputted by the user for the rotational operation via input device shown in Fig. 1 (5, 6, 7). As shown in Figs 4a-4d, the polar coordinates are specified by moving a point P (***coordinate detected by the coordinate detecting means***) on the spherical surface (22) from P0 to P1 to rotate the object (21). The rotation about an axis is defined by the center O of spherical surface (22) and the point P0 or P1 [col. 3, lines 45-65].

As shown in Fig. 4c, a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. The direction of rotation corresponds to said ***moving direction for the three-dimension object.***

- ***an object moving means for moving the three-dimensional object on the basis of the result of determination supplied from the determination means; and***

  [Fig. 1 (3); col. 2, line 33 – col. 3, line 27; where ***moving the three-dimensional object*** corresponds to rotating a object in three dimensions].

Ono implicitly teaches ***wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed.***

The user defines an axis of rotation as well as an angle of rotation. Applicant defines the angle of rotation as the speed of rotation [refer to [0091]]. As shown in Fig. 4c of Ono et al., a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. Therefore, from the definition within the disclosure of the current application, Ono teaches the speed of rotation.

In regards to claim **9**, claim 9 recites similar limitations as claim 1 and thus, is rejected with the same basis and rationale as claim 1. Furthermore, it would have been obvious to one of ordinary skill to interchange a mouse and pointer system with a touch screen as another means of defining the points on the display.

In regards to claim **12**, claim 12 recites similar limitations as claims 9 and 4 and thus, is rejected with the same basis and rationale as claims 9 and 4.

In regards to claim **14**, claim 14 recites similar limitations as claim 6 and thus, is rejected with the same basis and rationale as claim 6.

In regards to claim **17**, claim 17 recites similar limitations as claim 1 and thus, is rejected with the same basis and rationale as claim 1. Furthermore, referring to Fig. 1b, it would have been obvious for instructions to reside in the memory device (12) in order to implement the method of Ono.

In regards to claim **18**, claim 18 recites similar limitations as claim 6 and thus, is rejected with the same basis and rationale as claim 6. Furthermore, referring to Fig. 1b, it would have been obvious for instructions to reside in the memory device (12) in order to implement the method of Ono.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle K. Lay whose telephone number is (571) 272-7661. The examiner can normally be reached on Monday-Friday 7:30a-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee M. Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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